

ABSTRACT

An extended flip chip ball grid array package includes a metal heat slug bonded to the surface of a semiconductor chip. The heat slug has a bonding structure for connecting itself and a BGA substrate panel on which the semiconductor chip is mounted. The heat slug protects the chip from being damaged as well as assists heat dissipation. A first package assembly provides contact bodies on the heat slug for bonding the heat slug to contact pads formed on a BGA substrate panel. A second package assembly fixes the heat slug to a supporting structure bonded on a BGA substrate panel. Supporting stubs are formed on the supporting structure and snapped in openings formed on the contact bodies of the heat slug. Conventional packaging or testing equipment can be used for both package assemblies to manufacture or test the semiconductor chip packages.